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A New Species of *Wohlfahrtiodes* (Diptera, Sarcophagidae) from Kyushu, Japan1)

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Abstract A new agriine flesh fly, *Wohlfahrtiodes suenagai* sp. nov., is described and keyed. Male genitalia, head profile and abdominal patterns are illustrated. The genus *Wohlfahrtiodes* is new to the fauna of Japan.

Key words: Sarcophagidae; *Wohlfahrtiodes suenagai*; Diptera; new species; Japan.

Introduction

During 1989 to 1991, Dr. O. SUENAGA, Institute of Tropical Medicine, Nagasaki University, and I investigated the fauna of synanthropic flies in Kyushu under a scientific programm supported by a Grant-in-Aid from Ministry of Education, Science and Culture. We surveyed 4–5 times a year in Nagasaki Prefectutur, and made a very comprehensive collection of flies of medical importance for Reference Center of the institute. Examination of the collected material has revealed an undescribed species of *Wohlfahrtiodes* VILLENEUVE. This fly is similar to those of *Goniophyto* TOWNSEND, but differs from them in having no presutural *ac* and a normal length of 2nd aristal segment. *Wohlfahrtiodes* is a small genus of 4 described species occuring predominantly in the Palaearctic Region (VERVES, 1986; CHAO & ZHANG, 1988). A description and illustrations of this new species are given hereinafter. The specific name is dedicated to Dr. O. SUENAGA.

Key to the Genera of Japanese Agriinae

1 (2) Arista very short-pupescent, the hairs velvet-like...................... 3
2 (1) Arista plumose at least on basal half 7
3 (4) Parafacialia bare or sprasely with minute setulae 5
4 (3) Parafacialia densely setulose ....*Brachycoma* RONDANI
5 (6) Second segment of arista remarkably elongate; two rows of fine *ac*, distinct from ground hairs; *ors* fine, but distinct from parafacial setulae .... *Goniophyto* TOWNSEND
6 (5) Second segment of arista normal in length; *ac* indistinct from ground

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hairs; no *ors* developed .... *Wohlfahrtiodes* VILLENEUVE

7 (8) Body densely cinereous-grey dusted; tergites 3 and 4 with three black spots which are distinctly limited in posterior view; outer *ph* fine or indistinct; claws and pulvilli short; frons considerably wider than an eye, 0.40–0.43 of the head width, with 2+1 *ors* in both sexes; t_2 with strong *v* in ♂; ♀ usually with 4 *st* .... *Sarcophila* RONDANI

8 (7) Body appearing blackish grey, the grey dusting being less dense and extended; tergites 3 and 4 with median spot forming a complete stripe, lateral spots obscure, sometimes rather distinct or completely absent; outer *ph* well developed; claws and pulvilli long 9

9 (10) Palpi usually orange with brownish base, often entirely fuscous in ♂ of *A. shinonagai*; cerci long, with anteriorly curved apical part which is narrow in caudal view; paralobi vestigial .... *Angiometopa* BRAUER et BERGENSTAMM

10 (9) Palpi entirely fuscous black; cerci short and broad in caudal view; paralobi elongate, developed .... *Agria* ROBINEAU-DESVOIDY

Genus *Wohlfahrtiodes* VILLENEUVE

Wohlfahrtiodes VILLENUVE, 1910, Dt. ent. Z., **1910**: 152. Type species: *Wohlfahrtiodes nudus* VILLENEUVE, 1910, mon.

Wohlfahrtiodes suenagai sp. nov.

(Japanese name: Suenaga-yachinikubaë)

♂. –Head: eyes bare, dichoptic, widely separated at narrowest point by more than the width of eye; frons index 0.42; frontal stripe black, grey-dusted, broad, parallel-sided, slightly widened anteriorly and posteriorly; parafrontalia broad at the level of antennal base, slightly narrowed toward vertex, grey-dusted, with rather fine, long, black setulae on entrire length, provided with ca 8 pairs of *ori*; parafacialia broad, more than two times the width of 3rd antennal segment, grey-dusted, with several fine, long setulae at the level of antennal bases, with minute black setulae on central portion of middle part; face black, dark-grey dusted, with trace of median carina between bases of antennae; facialia fuscous, dark-grey dusted, bare except for several setulae just above vibrissae; medianae fuscous, dark-grey dusted, bare; vibrissaria narrow, fuscous, grey-dusted, bare, at most with one black setula; vibrissae well developed; epistome fuscous black, slightly grey-dusted, not projecting forward in lateral view; genae narrow, less than the width of 3rd antennal segment, black, dark-grey dusted, clothed with black hairs; postgenae concolorous with genae, clothed with rather long, black hairs; occiput concolorous with genae, clothed with rather long, black, setulose hairs on central and lower portions; 2nd antennal segment fuscous brown, slightly grey-dusted, with black setulae; 3rd antennal segment black, greyish pubescent in a certain incident of light, 2.5 times as long as 2nd;

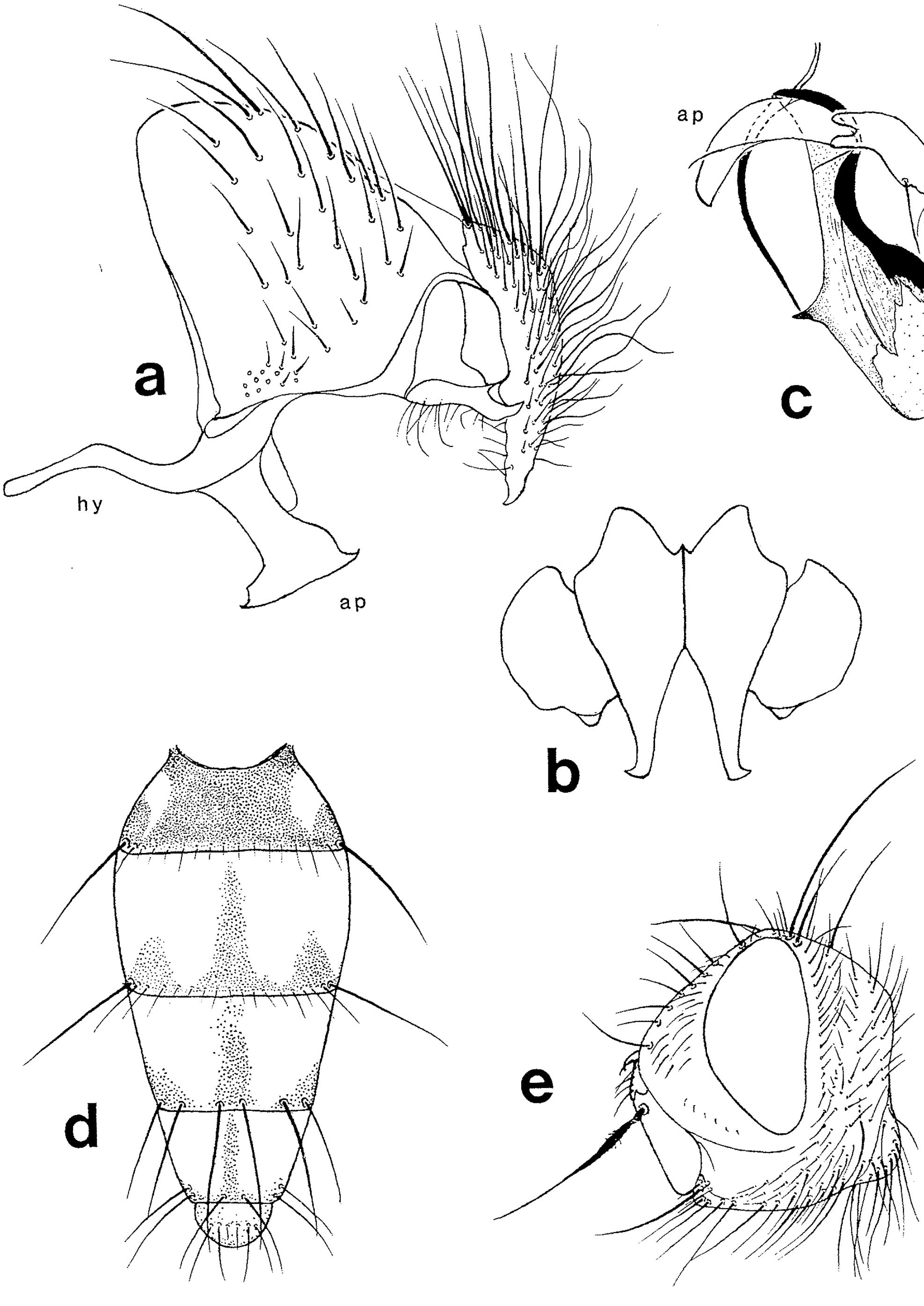

Fig. 1. *Wohlfahrtiodes suenagai* sp. nov., male. —— a, epandrium, cercus and paralobus, lateral view; b, cerci and paralobi, caudal view; c, aedeagus, anterior and posterior parameres, lateral view; d, abdomen, dorsal view; e, head, lateral view; ap, anterior paramere; pp, posterior paramere; hy, hypandrium.

arista blackish, pubescent on basal half of 3rd segment, 2nd segment not remarkably long; palpi entirely fuscous, with black bristly hairs as well as ordinary black ones.

Thorax: black except for sutures more or less brownish in part, grey-dusted, with three obscure black stripes on median and lateral portions of dorsum, clothed with black hairs; humeri, notopleura and sternopleura concolorous with dorsum, densely grey-dusted, with rather long black setulae; postalar calli and scutellum also concolorous with dorsum, with rather long black setulae; prosternum bare; propleura bare; supraspiracular convexity greyish pubescent, without erect hairs; hypopleura virtually bare, with a row of 5–6 hypopleural bristles; mesopleura, pteropleura and sternopleura with black hairs; mesothoracic spiracle small, blackish brown; metathoracic one also small, blackish brown; postalar declivity bare; tympanic tuft absent; suprasquamal ridge without anterior and posterior parasquamal tufts. Chaetotaxy; *ac* indistinct except for a pair of fine prescutellars, *dc*, 2–3+3, *ia* 1+2–3, *h* 2–3, *ph* 2–3, *prs* 1, *sa* 3, *pa* 2, *st* 1+1, *sc* 3+1, *n* 2, *pp* 1, *pst* 1–2. *pp* and *pst* accompanying with 2–3 bristly hairs.

Wings: hyaline, slightly tinged with pale brown along veins and at base; veins brown; epaulet blackish, silver pubescent basally; basicosta yellow, silver pubescent; subcostal sclerite yellowish brown, pubescent; first longitudinal vein (r_1) with a few fine setulae apically; costal spine developed; node of 2nd and 3rd longitudinal veins with a few black setulae below; 3rd longitudinal vein setulose above on half way from base to anterior cross vein (r–m); 4th longitudinal vein bent with an obtuse angle; section of the 4th vein from bend to wing edge slightly curved inward near the bend and wing margin; squamae usually pale brown, thoracic one lobulated, bare. Halteres pale brown.

Legs: black, grey-dusted, blackish haired; fore tibia with 1–2 *p* and 2 *ad*; mid tibia with 2 *ad*, 2 *pd*, 1 *p* and 1 *v*; hind tibia with 2 *ad*, 2 *pd* and 1 *av*.

Abdomen: black, rather densely grey-dusted, weakly dark-spotted on tergites 3–4, clothed with black hairs; trace of black median stripe and lateral spots on tergites 3–4; tergite 1+2 darkened discally; tergites 1+2 and 3 with several lateral marginal bristles, one of which is strong; tergites 4–5 with a row of strong erect marginal bristles, without discal bristles; sternites black, grey-dusted, clothed with black bristly hairs. Hypopygium prominent, black, grey-dusted; tergite 6 combined with genital segment 1+2, dark-grey dusted in part, with erect marginal bristles; genital segment 2 with a pair of lateral marginals; male genitalia as shown in Fig. 1.

♀. –Head: eyes bare, separated at vertex by a distance equal to 0.47 of head width; frontal stripe broad, reddish brown, brownish-grey dusted, slightly narrowed toward antennal bases, subequal to 2 times the width of one of parafrontalia in front of anterior ocellus; parafrontalia grey-dusted, brownish tinged posteriorly, blackish setulose, provided with ca 6 pairs of *ori*; *ors* 2+1, *oc* well developed, *acoc* absent, *pooc* fine, *ov* and *iv* strongly developed, *poc* parallel or divergent, *occ* 1. Abdomen: more robust than that of male; bristles weak and decumbent on tergite 3 except for 1 strong lateral marginal bristle. Ovipositor short. Otherwise same as for ♂.

Length: 8.5 mm.

Holotype ♂, Kyushu: Nagasaki Pref., Isahaya, Honmyo River, 27. v. 1993, H. KURAHASHI.

Paratypes: Kyushu: 1 ♂, Nagasaki Pref., Isahaya, Nagata-cho, 0 m, 26. v. 1992, H. KURAHASHI; 35 ♂ 35 ♀, same data as holotype.

Type depository: Holotype and paratypes (22 ♂ 22 ♀) are deposited in the author's collection in Natural Hisotry Museum, Tokyo (NHMT). Paratypes are also preserved in the following institutions: Reference Center, Institute of Tropical Medicine, Nagasaki University, Nagasaki, NURC (2 ♂ 2 ♀); Department of Medical Entomology, National Institute of Health, Tokyo, NIHJ (7 ♂ 7 ♀); Bishop Museum, Honolulu, BPBM (2 ♂ 2 ♀); and Natural History Museum, London, BMNH (2 ♂ 2 ♀).

Bionomics. Adult flies were collected around crab holes in the marshes along rivers flowing into Ariake Bay.

Distribution. Japan (Kyushu).

Relationships. The present new species is closely allied to *Wohlfahrtiodes mongolicus* CHAO et ZHANG, 1988, but is easily distinguished by the characteristic male genitalia and no presutural *ac* developed.

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